

Bass Lake Aquatic Vegetation Management Plan Update

February 7, 2006

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Introduction

This report was created in order to update the Bass Lake Aquatic Vegetation Management Plan. The plan update was funded by the Indiana Department of Natural Resources Lake and River Enhancement Program (LARE) and the Bass Lake Property Owners Association. The update serves as a tool to track changes in the vegetation community, to adjust the action plan, and to maintain eligibility for additional LARE funds. Items covered include the 2005 sampling results, a review of the 2005 vegetation controls, and updates to the budget and action plans. Once reviewed and approved, the update should be included in the original vegetation management plan, following the reference section and prior to the appendix.

2005 Sampling Results

Two surveys were completed on Bass Lake in 2005. A tier I and II survey were completed in May. These surveys allowed for determination of control areas and documentation of changes within the emergent and rooted floating plant community. A second tier II survey was completed in August in order to document success or failure of the control techniques and to compare 2005 results to the 2004 survey (the 2004 tier II survey was completed during the same month as the second 2005 tier II survey).

Tier I Survey

On May 16, 2005 a tier I survey was completed on Bass Lake. The tier I survey revealed eleven distinct plant beds within Bass Lake totaling 838.4 acres. (Table 1& Figure 1). Vegetation was present to a maximum depth of 9 feet while a majority of the plants were 5 feet or less. Six different species were observed. Plant beds varied widely in size and species diversity.

Table 1. Bass Lake Tier I Survey Results, May 16, 2005.

Plant Bed I.D.	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11
Plant Bed Size (acres)	602.7	11.7	49.7	6.0	18.8	138.6	1.0	1.0	1.0	6.2	1.3
	Rating*										
Eurasian watermilfoil	1	3	1	2	1	2	2	2	2	1	1
Chara	2	1	2	1	1	2	1	-	-	-	-
White water lily	1	-	-	2	1	1	2	2	2	2	3
Spatterdock	1	-	-	2	1	1	2	2	3	2	3
Curlyleaf pondweed	1	1	1	1	1	1	-	•	1	-	-
Watershield	-	-	-	-	-	-	-	•	-	3	-

*Rating based on score of 1-4 with 1 being least dense to 4 being most dense





Figure 1. Tier I plant beds, Bass Lake, May 16, 2005.

Plant bed 1 was located along in the southern basin of Bass Lake (Figure 1). It was the largest plant bed at 602.7 acres. The substrate of plant bed 1 was silt with sand. A total of five species were observed within the plant bed. Plant bed 1 consisted of primarily submersed vegetation, but this vegetation was sparse and scattered throughout the area Chara was the most abundant species within plant bed 1. Eurasian watermilfoil (Myriophyllum spicatum), curlyleaf pondweed (Potamogeton crispus), white water lily (Nymphaea tuberose), and spatterdock (Nuphar variegetum) were also present at the lowest abundance rating (less than 2%).

Plant bed 2 was located northeast of plant bed 1 along the eastern shoreline of Bass Lake. This plant bed was determined to be 11.7 acres. The substrate of plant bed 2 was silt with sand. A total of three species were observed in plant bed 2. Eurasian watermilfoil was the most abundant species present in plant bed 2. Chara and curlyleaf pondweed were also observed at the lowest abundance rating. Plant bed 2 was an area targeted for control with Renovate herbicide.

Plant bed 3 was located north of plant bed 2 along the eastern shoreline of Bass Lake. This plant bed was determined to be 49.7 acres. The substrate of plant bed 3 was silt with



sand. A total of three species were observed in plant bed 3. Chara was the most abundant species in plant bed 3. Eurasian watermilfoil and curlyleaf pondweed were also observed in plant bed 3 at the lowest abundance rating. Overall, submersed vegetation was sparse within this area.

Plant bed 4 was located north of plant bed 3 along the northeastern shoreline of Bass Lake. The plant bed was determined to be 6.0 acre and the substrate was primarily silt/clay. A total of five species were observed in plant bed 4. White water lily, spatterdock, and Eurasian watermilfoil were the most abundant species in plant bed 4. Chara and curlyleaf pondweed were also observed at the lowest abundance rating in plant bed 4. This plant bed likely provides good fish cover and should be protected.

Plant bed 5 was located north of plant bed 4 along the northeastern shoreline of Bass Lake. The plant bed was determined to be 18.8 acres. The substrate of plant bed 5 was sand with silt. A total of five species were observed in plant bed 5. Chara, curlyleaf pondweed, Eurasian watermilfoil, white water lily, and spatterdock were all present in plant bed 5 at the lowest abundance rating.

Plant bed 6 was located west of plant bed 4 along the northwestern shoreline of Bass Lake. The plant bed was determined to be 138.6 acres. The substrate of plant bed 6 was sand with silt. There were a total of five species observed. Eurasian watermilfoil and chara were the most dominant species in plant bed 6. Curlyleaf pondweed, white water lilies, and spatterdock were also present at the lowest abundance rating in plant bed 6. Eurasian watermilfoil was targeted for control in this area.

Plant bed 7 was located south of plant bed 6 along the northwestern shoreline of Bass Lake. The plant bed was determined to be 1.0 acre. The substrate of plant bed 7 was silt with sand. There were a total of four species observed in this plant bed. Eurasian watermilfoil, white water lily, and spatterdock were the most abundant species in plant bed 7. Chara was also observed in plant bed 7 at the lowest abundance rating. This area offered abundant rooted floating vegetation which is beneficial for fish cover and should be protected.

Plant bed 8 was located south of plant bed 7 along the western shoreline of Bass Lake. The plant bed was determined to be 1.0 acre and the substrate was silt with sand. There were three species observed in this plant bed. Eurasian watermilfoil, spatterdock, and white water lily were all observed in plant bed 7 with equal abundance. The rooted floating vegetation should be protected in this plant bed.

Plant bed 9 was located south of plant bed 8 along the west shoreline of Bass Lake. The plant bed was determined to be 1.0 acre. The substrate of plant bed 9 was silt with sand. There were four species observed in the plant bed. Spatterdock was the most abundant species present in the plant bed. White water lily, Eurasian watermilfoil, and curlyleaf pondweed were also observed in plant bed 9 at lower abundance.

Plant bed 10 was located along the western most shoreline of Bass Lake south of plant bed 9. The plant bed was determined to be 6.2 acres. The substrate was silt with sand. There were four species present in plant bed 10. Watershield (*Brasenia schreberi*) was



the most abundant species in plant bed 10. White water lily, spatterdock, and Eurasian watermilfoil were also present at a lower abundance rate. Plant bed 10 is very unique to Bass Lake. It was by far the largest area of rooted floating vegetation within the lake and steps should be taken to protect and expand this area.

Plant bed 11 was located south of plant bed 10 along the southern shoreline of Bass Lake. The plant bed was determined to be 1.3 acres. The substrate was silt with sand. There were three species observed in plant bed 11. White water lily and spatterdock were the most dominant species in the plant bed. Eurasian watermilfoil was also observed at the lowest abundance rating.

The Tier I sampling was altered slightly from 2004 in order to give a more detailed picture of the plant beds. One noticeable difference between the surveys was the presence of dense beds of milfoil along the northwest shoreline, or plant bed 6 in the 2005 survey. Less milfoil was present in the southern basin in the 2005 than in 2004. When comparing the two surveys, there was little change in the location and size of the water lily and spatterdock dominated plant beds.

Tier II Survey Results

Two tier II surveys were completed on Bass Lake in order to document the changes in the plant community and to determine success or failure of control techniques. Surveys were completed on May 16 and August 1, 2005.

May tier II survey

On May 16, 2005 a Tier II survey was completed on Bass Lake immediately following the Tier I sampling. A Secchi disk reading was taken prior to sampling and was found to be at 2.0 feet. Plants were present to a maximum depth of 9 feet. One hundred and fifty-eight sites were randomly selected within the littoral zone. Results of the sampling are listed in Table 2. Overall aquatic vegetation distribution and density is illustrated in Figure 2. The bottom half of Table 2 illustrates the frequency of occurrence, relative density, mean density, and dominance index of individual species collected from Bass Lake in May 2005.

Table 2. Bass Lake Tier II survey results, May 16, 2005.

Date:	5/16/2005		Littoral sites with plants:	75		Species diversity:	0.46
Littoral depth (ft):	9		Number of species:	3		Native diversity:	0.00
Littoral sites:	158		Maximum species/site:	2		Rake diversity:	0.48
Total sites:	161		Mean number species/site:	0.56		Native rake diversity:	0.00
Secchi:	2		Mean native species/site:	0.37		Mean rake score:	1.18
Common	Name	Site frequency	Relative density		Mean density	Dominance	
Chara		37.3	0.41		1.08	8.1	
Eurasian wa	termilfoil	19.0	0.25		1.30	4.9	
Curlyleaf po	ndweed	0.60	0.01		1.00	0.1	



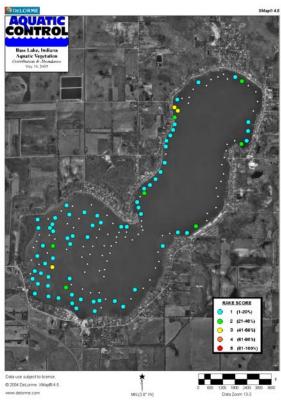


Figure 2. Bass Lake aquatic vegetation distribution and abundance, May 16, 2005.

Only three species were collected during the tier II survey. Two exotic species, curlyleaf pondweed and Eurasian watermilfoil, and only one native species, chara, were collected. Chara was present at the highest percentage of sample sites (36%) and also the highest relative density. Location and density of Chara is illustrated in Figure 3 (in species location and density figures, plant location is illustrated by a color coded dot, the color of the dot represents the density of the species and sample sites without that species are illustrated by a smaller white diamond). Eurasian watermilfoil ranked second in frequency of occurrence and relative density (Figure 4). Curlyleaf pondweed ranked last in frequency of occurrence and relative density (Figure 5).



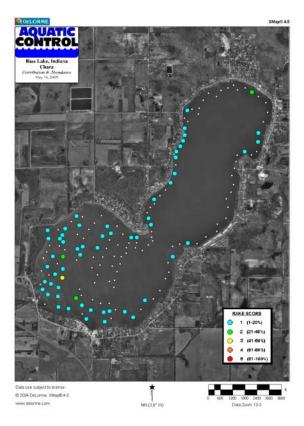


Figure 3. Bass Lake, Chara distribution and abundance, May 16, 2005.

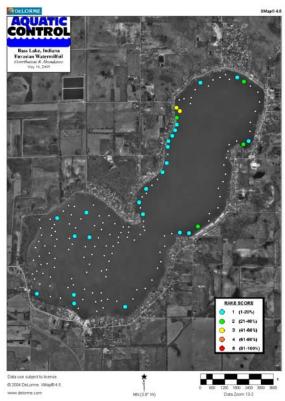


Figure 4. Bass Lake, Eurasian watermilfoil distribution and abundance, May 16, 2005.



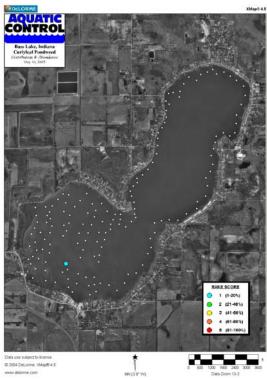


Figure 5. Bass Lake, curlyleaf pondweed distribution and abundance, May 16, 2005.

August tier II survey

The second round of tier II sampling took place on August 1, 2005. A Secchi disk reading was taken prior to sampling and was found to be 2.5 feet. Plants were present to a maximum depth of 8 feet. The same one hundred and fifty eight sites were sampled in August as were in May. Results of the sampling are listed in Table 3. Overall aquatic vegetation distribution and density is illustrated in Figure 6.

Table 3. Bass Lake Tier II survey results, August 1, 2005.

Date:	8/1/2005		Littoral sites with plants:	81		Species diversity:	0.59
Littoral depth (ft):	8		Number of species:	8		Native diversity:	0.37
Littoral sites:	158		Maximum species/site:	4		Rake diversity:	0.48
Total sites:	161		Mean number species/site:	0.66		Native rake diversity:	0.26
Secchi:	2.5		Mean native species/site:	0.50		Mean rake score:	1.66
Common Name		Site frequency	Relative density		Mean density	Dominance	
Chara		39.9	0.70		1.76	14.1	
Eurasian watermi	lfoil	15.2	0.18		1.21	3.7	
Liverwort sp.		2.5	0.03		1.00	0.5	
Richardson's pon	dweed	2.5	0.03		1.00	0.5	
Northern watermi	lfoil	2.5	0.03		1.00	0.5	
Sago pondweed		1.9	0.02		1.00	0.4	
Curlyleaf pondwe	ed	1.3	0.01		1.00	0.3	
Common naiad		0.6	0.01		2.00	0.1	



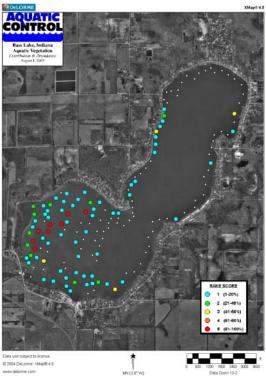


Figure 6. Bass Lake, Overall aquatic vegetation distribution and density, August 1, 2005.

A total of 8 species were collected of which 6 of the species were native. Eurasian watermilfoil and curlyleaf pondweed were the only exotic species collected. Once again, Chara was present at the highest percentage of sample sites (39%) and also the highest relative density (Figure 7). Eurasian watermilfoil ranked second in frequency of occurrence and relative density. Eurasian watermilfoil decreased in density and abundance compared to the May 16, 2005 tier II survey. Location and density of Eurasian watermilfoil is illustrated in Figure 8. Liverwort (*Ricciocarpus sp.*), Richardson's pondweed (*Potamogeton richardsonii*), and northern watermilfoil (*Myriophyllum sibiricum*) ranked third in frequency of occurrence and relative density. Sago pondweed (*Potamogeton pectinatus*) ranked fourth in frequency and but shared the same relative and mean density as liverwort, Richardson's pondweed, and northern watermilfoil. Curlyleaf pondweed ranked fifth in frequency of occurrence and its location and density is illustrated in Figure 9. Common naiad (*Najas flexilis*) ranked last in frequency of occurrence.



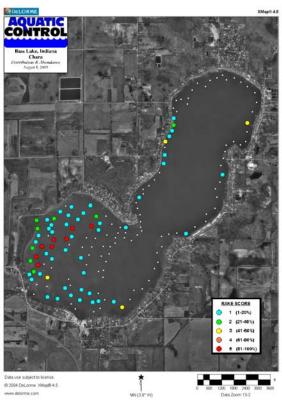


Figure 7. Bass Lake, Chara distribution and abundance, August 1, 2005.

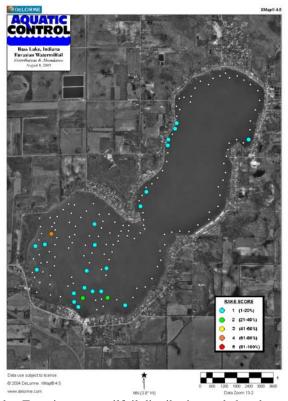


Figure 8. Bass Lake, Eurasian watermilfoil distribution and abundance, August 1, 2005.



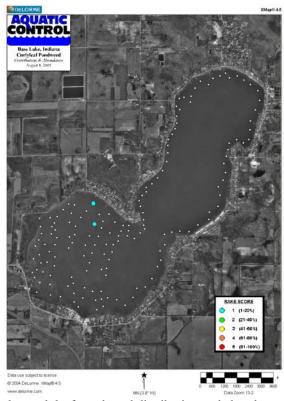


Figure 9. Bass Lake, curlyleaf pondweed distribution and abundance, August 1, 2005.

Aquatic Vegetation Sampling Discussion

One of the main goals of the aquatic vegetation management plan is to increase native diversity. The substrate of Bass Lake may not be conducive to extensive beds of native vegetation, due to its sandy nature and an abundance of high-speed boating. However, there have been restrictions placed on Bass Lake that extends the idle zones beyond traditional limits. The restriction may lead to a reduction in wave action and may allow native plants to establish. At the time of the initial survey, the primary nuisance species present in the lake was Eurasian watermilfoil. It was theorized that if this invasive nuisance species was reduced, native plants would be able to establish in those areas. Treatments were completed in order to reduce the abundance of Eurasian watermilfoil in order to reduce nuisance conditions created by this species and in order to allow for an increase in natives. Overall, the treatments were very effective controlling Eurasian watermilfoil. However, some milfoil colonized new areas by the August survey. The figures below graphically illustrate the changes in Eurasian watermilfoil density and abundance (Figure 10 & 11).



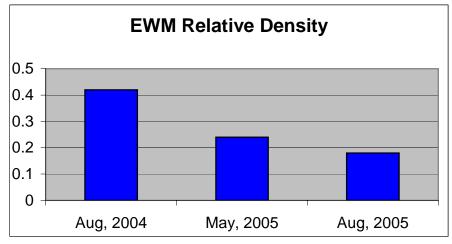


Figure 10. Bass Lake, comparison of Eurasian watermilfoil relative density in the last three surveys.

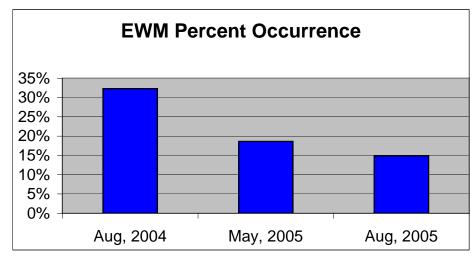


Figure 11. Bass Lake, comparison of Eurasian watermilfoil percent occurrence in the last three surveys.

Bass Lake has a below average density and diversity of submersed aquatic vegetation. However, it appears that this may be changing. The comparison of several metrics, calculated from the tier II survey results, reflect this potential improvement. There appears to be an increase in all native diversity metrics when compared to last season's tier II sampling. The Figures below help illustrate these improvements (Figures 12, 13, 14, & 15)



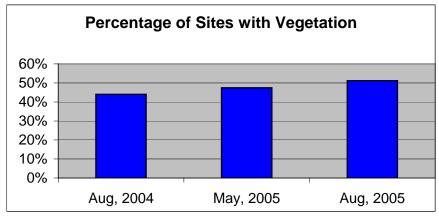


Figure 12. Bass Lake, comparison of percentage of sites with vegetation in the past three surveys.

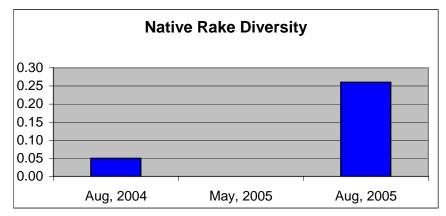


Figure 13. Bass Lake, comparison of native rake diversity in the last three surveys.

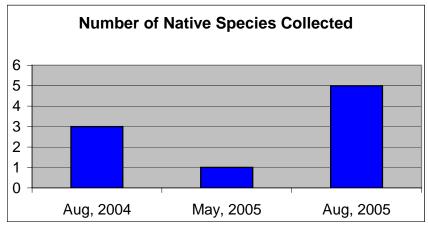


Figure 14. Bass Lake, comparison of number of native species collected in the past three surveys.



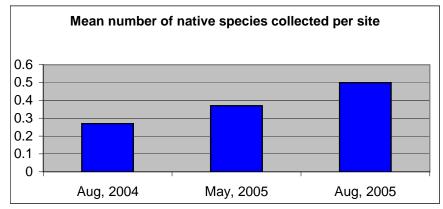


Figure 15. Bass Lake, comparison of mean number of native species collected per site in the past three surveys.

The survey data leads us to believe that we are progressing towards meeting the goals of reducing nuisance conditions caused by Eurasian watermilfoil and thus expanding and enhancing the native plant community. If all goes as planned, we should continue to see a decrease in Eurasian watermilfoil and an increase in native vegetation over the next several years.

2005 VEGETATION CONTROL

The action plan primarily called for treatment of Eurasian watermilfoil with Renovate herbicide. Treatment areas were determined following May sampling and a pre-treatment trip in early June. Renovate herbicide was applied to 136 acres of Eurasian watermilfoil on June 14. An integrated GPS spray system was used in order to apply the correct dose to the proper area. The primary treatment area was located along the northwest shoreline of Bass Lake (Figure 16). This was the first time in several years that this area had milfoil at nuisance levels. At the time of treatment the milfoil beds were at, or very near, the surface of the lake. Control of the treatment area was achieved within 30 days. Residents of Bass Lake were satisfied with the reduction in nuisance conditions.



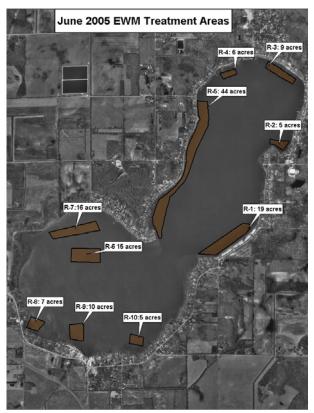


Figure 16. Bass Lake, Eurasian watermilfoil treatment areas, June 14, 2005.

PUBLIC INVOLVEMENT

A public meeting was held November 28, 2005 at the Bass Lake POA building in Knox, Indiana. Six individuals attended the meeting. The meeting was designed to educate lake users on the LARE program, update them on plant management activities and future planned activities, obtain user input, and to educate property owners on proper lake front property management practices. A user survey was handed out prior to the meeting. All six in attendance had property adjacent to the lake and five of those six were members of the Association. All six in attendance have lived on the lake for over ten years. All six were in favor of continuing vegetation management on Bass Lake. We expressed the importance of getting the word out about this meeting. A notice was placed in the local paper, but attendance was still relatively light considering the number of homes on Bass Lake.

ACTION PLAN AND BUDGET UPDATE

The 2005 treatments effectively controlled Eurasian watermilfoil in the targeted areas, but new growth was detected in areas outside of the treatment zones by the August survey. Figure 17 is a rough estimate of the treatment that may be needed to control milfoil next season. These areas were marked based upon the 2005 August tier II survey and visual observations made during this survey. It is very difficult to predict what milfoil will do from season to season, so this map should be considered as an educated guess as to where treatment will be required. The actual treatment areas will be determined following the May tier I and II surveys. Another tier II survey should be



completed in August in order to assess the success or failure of control techniques and monitor changes in the native plant population. Based upon the 2005 sampling results, the budget in Table 4 should be sufficient to cover a 2006 Renovate treatment and plant sampling (it is estimated that between 40 and 50 acres of Eurasian watermilfoil will require treatment in 2006, but this will be determined after spring sampling). It is recommended that the association request \$23,000 from LARE for 2006 management actions (Table 4). Future budget adjustments may be required based upon plant sampling results.

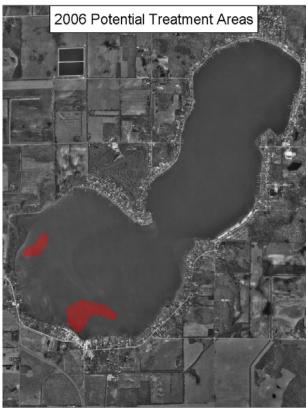


Figure 17. Bass Lake, 2006 potential Eurasian watermilfoil treatment areas.

Table 4. Copy of budget from original plan.

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	2005	2006	2007	2008
Herbicide & Application Cost	\$60,000	\$20,000	15,000	\$10,000
Vegetation Sampling & Plan Update	\$3,000	\$3,000	3,000	\$3,000
Aquatic Vegetation Planting	-	-	\$10,000	\$10,000
Total:	\$63,000	\$23,000	28,000	\$23,000



Bass Lake AVMP Update February, 2006 Appendix Update 2005 Sampling Data May Tier II Data

Lake	Date	Latitude	Longitude	Site	Depth	RAKE	MYSP2	POCR3	CH?AR	SpeNum	NatSpeNum	Species Cod	es
Bass	5/16/05	41.21925	-86,5958	103	3.0					0	0	BIBE	Bur marigold
Bass	5/16/05	41.21852	-86.5959	104	3.0					0	0	CEDE4	Coontail
Bass	5/16/05	41.21803	-86.5967	105	3.0					0	0	CH?AR	Chara
Bass	5/16/05	41.21704	-86.5969	106	3.0					0	0	ELCA7	Elodea
Bass	5/16/05	41.21599	-86.5975	107	3.0		1000			0	0	LEMN	Duckweeds
Bass	5/16/05	41.21484	-86.5979	108	4.0					0	0	MYHE	Broadleaf watermilfoil
Basa	5/16/05	41.21388	-86.5981	109	6.0					0	0	MYSI	Northern watermilfoil
Bass	5/16/05	41.21468	-86.5988	110	3.0					0	0	MYSP2	Eurasian watermilfoil
Bass	5/16/05	41.21676	-86.5983	111	3.0					0	0	MYVE	Whorled watermilfoil
Bass	5/16/05	41.21808	-86.598	112	3.0					0	0	NAFL	Slender naiad
Bass	5/16/05	41.21964	-86.5973	113	3.0					0	0	NAGU	
Bass	5/16/05	41.22108	-86.5964	114	4.0					0	0	NAMA	Southern waternymph
Bass	5/16/05	41.22218	-86.5975	115	3.0	-			-	0			Spiny naiad
Bass	5/16/05	41.22121	-86.5986	116	4.0	1					0	NAMI	Brittle waternymph
	5/16/05	41.22031	-86.5988	117	4.0	- 1			- 1	1		NELU	American lotus
Bass	5/16/05									0	0	NI?TE	Nitella
Bass	5/16/05	41.21916	-86.5994	118	3.0					0	0		No aquatic vegetation
Bass		41.21801	-86.6	119	3.0					0	0	NULU	Yellow pond lily
Bass	5/16/05	41.2169	-86.6005	120	3.0					0	0	NYTU	White water lily
Bass	5/16/05	41.21559	-86.601	121	4.0					0	0	POAM	Large-leaf pondweed
Bass	5/16/05	41.21448	-86.6015	122	6.0					0	0	POCR3	Curly-leaf pondweed
Bass	5/16/05	41.21655	-86.602	123	4.0					0	0	POFO3	Leafy pondweed
Bass	5/16/05	41.21795	-86.6018	124	3.0					0	0	POGR8	Variable pondweed
Bass	5/16/05	41.21923	-86.601	125	4.0	1	1		1	2	1	POIL	Illinois pondweed
Bass	5/16/05	41.22082	-86.6001	126	5.0	1		Za za	1	1	1	PONO2	American pondweed
Bass	5/16/05	41.22216	-86.5992	127	4.0	1			1	1	1	POPE6	Sago pondweed
Bass	5/16/05	41.22362	-86.6003	128	3.0					0	0	POPR5	White-stemmed pondweed
Bass	5/16/05	41.22259	-86.6016	129	4.0	1	1			1	0	POPU7	Small pondweed
Bass	5/16/05	41.22174	-86.6026	130	4.0		VIEW I	1911		0	0	PORI2	Richardson's pondweed
Bass	5/16/05	41.22054	-86.6035	131	3.0					0	0	POZO	Flat-stemmed pondweed
Bass	5/16/05	41.21938	-86.6036	132	3.0	1	1		1	2	1	UTMA	Common bladderwort
Bass	5/16/05	41.21831	-86,6041	133	5.0	1			1	1	1	VAAM3	Wild celery, eel grass
Bass	5/16/05	41.21757	-86.6048	134	4.0					0	0	WO?LF	Watermeal
Bass	5/16/05	41.21907	-86.6046	135	5.0	1			1	1	1	ZAPA	Horned pondweed
Bass	5/16/05	41.22106	-86.6046	136	3.0		S. L. Carrier	1/2		0	Ö	ZODU	Water stargrass
Bass	5/16/05	41.22227	-86.6042	137	3.0	1			1	1	1	2000	Water stargrass
Bass	5/16/05	41.22342	-86.6037	138	2.0					0	0	Count	34
Bass	5/16/05	41.22353	-86.6048	139	2.0	1			1		1	Count	04
Bass	5/16/05	41.22279	-86.6057	140	2.0				- '	0	Ö		
Bass	5/16/05	41.22182	-86.6068	141	4.0	1	1		1	2	1		
Bass	5/16/05	41.22098	-86.6073	142	3.0	1			1	1	1		
Bass	5/16/05	41.22002	-86.6071	143	4.0	1			1	1	1		
Bass	5/16/05	41.21898	-86.6069	144	5.0				- 1				
	5/16/05	41.21803	-86.6072						- 0	0	0	-	
Bass	5/16/05	41.21803	-86.6072	145 146	5.0	2	-		2		1		
Bass					4.0				1	0	0		
Bass	5/16/05	41.21555	-86.6097	147	4.0					0	0		
Bass	5/16/05	41.21466	-86.6104	148	3.0	1			1	1	1		
Bass	5/16/05	41.21667	-86.61	149	2.0	1			1	1	1		
Bass	5/16/05	41.21809	-86.609	150	3.0	1			1	1	1		Lawrence and the same and
Bass	5/16/05	41.2195	-86.6078	151	5.0					0	0		27-11-1
Bass	5/16/05	41.2205	-86.6077	152	2.0	1			1	1	1		
Bass	5/16/05	41.22167	-86.608	153	2.0					0	0		
Bass	5/16/05	41.22163	-86.61	154	2.0	1			1	1	1		
Bass	5/16/05	41.2205	-86.6098	155	2.0	1	-		1	1	1		
Bass	5/16/05	41.21956	-86.6096	156	2.0					0	0		
Bass	5/16/05	41.21868	-86.6101	157	2.0					0	0		
Bass	5/16/05	41.21784	-86.6107	158	2.0					0	0		
Bass	5/16/05	41.21614	-86.611	159	2.0				8-15-1	0	0		
Bass	5/16/05	41.21428	-86.6113	160	2.0		Charles of			0	0		
	5/16/05	41.21359	-86.6109	161	2.0	1			1	1	1		



Lake	Date	Latitude	Longitude	Site	Depth	RAKE	MYSP2	POCR3	CH2AD	Cooklum	NotCooklym		0-4	
Bass	5/16/05	41.21162	-86.6104	1		1	1	FOCHS	CH?AR	Spervuri	NatSpeNum		pecies Code BIBE	Bur marigold
Bass	5/16/05	41.21291	-86.6099	2		1			1		1		CEDE4	Coontail
Bass	5/16/05	41.21437	-86.6093	3		1			1		1 .		CH?AR	Chara
Bass	5/16/05	41.21566		4		1			1		1		ELCA7	Elodea
Bass	5/16/05	41.21638	-86.6072	5		1			1		1 .		LEMN	Duckweeds
Bass	5/16/05	41.21518	-86.6073	6		3			3		1		MYHE	Broadleaf watermilfoil
Bass	5/16/05	41.21386	-86.608	7	4.0	1			1		1 1		MYSI	Northern watermilfoil
Bass	5/16/05	41.21265		8		1			1		1 1		MYSP2	Eurasian watermilfoil
Bass	5/16/05	41.21122		9		1			1		1		MYVE	Whorled watermilfoil
Bass	5/16/05	41.211		10		1			1		1		NAFL	Slender naiad
Bass	5/16/05	41.21243		11	4.0	2			2		1 1		NAGU	Southern waternymph
Bass	5/16/05	41.21365		12		1		1			1 (NAMA	Spiny naiad
Bass	5/16/05 5/16/05	41.21282		13							0 (NAMI	Brittle waternymph
Bass Bass	5/16/05	41.21146		14		1	1		1		2 1		NELU	American lotus
Bass	5/16/05	41.20961	-86.603	16		1	- 1				1 (NI?TE	Nitella
Bass	5/16/05	41.21081	-86.6022	17	5.0	1			1		1 1		NOAQVG NULU	No aquatic vegetation
Bass	5/16/05	41.21223	-86.6019	18							0 0		NYTU	Yellow pond lily White water lily
Bass	5/16/05	41.21173	-86.6005	19							0 0		POAM	Large-leaf pondweed
Bass	5/16/05	41.21051	-86.5999	20		1			1		1 1		POCR3	Curly-leaf pondweed
Bass	5/16/05	41.20923	-86.5997	21	2.0	1	1000		1		1 1		POFO3	Leafy pondweed
Bass	5/16/05	41.20967	-86.5986	22	2.0						0 (POGR8	Variable pondweed
Bass	5/16/05	41.21067	-86.5989	23		1			1		1 1		POIL	Illinois pondweed
Bass	5/16/05	41.2117		24							0 ()	PONO2	American pondweed
Bass	5/16/05	41.21084		25		1000					0 ()	POPE6	Sago pondweed
Bass	5/16/05	41.2106		26		1			1		1 1		POPR5	White-stemmed pondweed
Bass	5/16/05	41.20983	-86.5946	27	4.0	1	1		1		2 1		POPU7	Small pondweed
Bass	5/16/05 5/16/05	41.21089		28							0 (PORI2	Richardson's pondweed
Bass Bass	5/16/05	41.21215	-86.5925 -86.591	29 30		1			1		1 1		POZO	Flat-stemmed pondweed
Bass	5/16/05	41.21231		31	2.0						0 0		UTMA	Common bladderwort
Bass	5/16/05	41.21507		32	8.0						0 0		VAAM3 WO?LF	Wild celery, eel grass Watermeal
Bass	5/16/05	41.21593		33	5.0						0 0		ZAPA	Horned pondweed
Bass	5/16/05	41.21721	-86.5883	34	4.0						0 0		ZODU	Water stargrass
Bass	5/16/05	41.21804	-86.5875	35		1		2000	1		1 1			
Bass	5/16/05	41.21942	-86.5875	36	3.0						0 0		Count	34
Bass	5/16/05	41.21974	-86.5863	37	2.0			Carlo Branco	70000		0 0			04
Bass	5/16/05	41.21988	-86.5848	38	9.0	1	1		1		2 1			
Bass	5/16/05	41.2198	-86.5831	39		1	1				1 (
Bass	5/16/05	41.2207	-86.5815	40		2	2				1 (
Bass	5/16/05	41.22145	-86.5796	41	2.0						0 (
Bass	5/16/05	41.22245		42							0 (
Bass	5/16/05	41.22324	-86.578	43							0 (
Bass	5/16/05 5/16/05	41.22469	-86.5776 -86.5779	44					1		0 0			
Bass	5/16/05	41.22674	-86.577	45							0 0			
Bass	5/16/05	41.22776		47	4.0		_				0 0			
Bass	5/16/05	41.22899	-86.5769	48							0 0			
Bass	5/16/05	41.22997	-86.5764	49		-					0 0			
Bass	5/16/05	41.23085	-86.5761	50							0 0			
Bass	5/16/05	41.23171	-86.576	51	10.0	3/13/13					0 0			
Bass	5/16/05	41.23223		52	2.0				1		1 1			
Bass	5/16/05	41.23177	-86.5734	53	5.0	2	2	W. C. C.			1 (
Bass	5/16/05	41.23221	-86.5724	54	7.0	1	1				1 (
Bass	5/16/05	41.23355	-86.5722	55	5.0	1			1		1 1			
Bass	5/16/05	41.23475	-86.5722	56	5.0	1			1		1 1			
Bass	5/16/05	41.23623	-86.5712	57	3.0						0 0			
Bass	5/16/05	41.2375		58							0 0			
Bass	5/16/05	41.23885	-86.5708	59	13.0						0 0			
Bass	5/16/05	41.23967	-86.5722	60	12.0						0 0			
Bass	5/16/05	41.24027	-86.5733	61	8.0	2	2		2		2 1			
Bass Bass	5/16/05 5/16/05	41.24057	-86.5745 -86.5759	62	3.0 4.0	1	1				1 (
Bass	5/16/05	41.2412	-86.5766	64	2.0						0 0			
Bass	5/16/05	41.24083	-86.5776	65	2.0									
Bass	5/16/05	41.2405	-86.5788	66	2.0						0 0			
Bass	5/16/05	41.23965	-86.5796	67	3.0						0 0			
Bass	5/16/05	41.24012	-86.5811	68	2.0	1	1	7000000			1 0			
Bass	5/16/05	41.23919	-86.582	69	3.0						0 0			
Bass	5/16/05	41.2381	-86.5827	70	3.0			1			0 0			
Bass	5/16/05	41.23728		71	4.0						0 0			
Bass		41.23794	-86.584	72	2.0						0 0			
Bass		41.23777		73		1			1		1 1			
Bass		41.23674		74	4.0	3					1 0			
Bass Bass		41.23628		75 76		3 2			-		1 0			
Bass		41.23537		76	5.0	1	1		1		2 1			
Bass		41.23369		78		1	1		1		2 1			
Bass		41.23295		79		1	1		1		2 1			
Bass		41.23221		80		1	1		1		2 1			
Bass		41.23144	-86.587	81	4.0	1	1		1		2 1			
Bass		41.23042	-86.587	82	5.0	7.00					0 0			
Bass	5/16/05	41.22923	-86.5872	83	3.0	1	1		1		2 1			
Bass	5/16/05	41.228	-86.5879	84	8.0	1	1		1		2 1			
Bass		41.22703		85	3.0	1					0 0			
Bass		41.22624		86		1					0 0			
Bass		41.22575		87	3.0	1	1		1		2 1			
Bass		41.22516		88	7.0	2	2				1 0			
Bass		41.22464		89	3.0						0 0			
Bass		41.22396		90	3.0	1	1				1 0			
Bass		41.22321		91	4.0	1			1		1 1			
Bass		41.22235		92	4.0	1	1		1		2 1			
Bass		41.22143 41.22067		93	2.0						0 0			
Bass Bass		41.22067		94 95	2.0						0 0			
Bass		41.21963		96	2.0						0 0			
Bass		41.21886		97	3.0								-	
Bass		41.21923		98	3.0						0 0			
Bass		41.21992	-86.594	99	3.0				7 (7)		0 0			
Bass		41.22065	-86.594	100	2.0	1			1		1 1			
Bass	5/16/05	41.22062	-86.595	101	3.0	1			1		1 1			
Bass		41.21988		102				161/100			0 0			
										-	*		_	



August Tier II Data

Lake	Date	Latitude	Longitude	Site	Depth	RAKE	MYSP2	POCR3	CH?AR	LVWORT	NAFL	POPE6	PORI2	MYSI	NAGR	SpeNum	NatSpeNun	n s	pecies Cod	96
Bass Lake		41.21162	-86.61045	1	3.0				0			10120	, one	miro.	101011	Coportoni		0	BIBE	Bur marigold
Bass Lake		41.21291		2												0)	0	CEDE4	Coontail
Bass Lake			-86.60933 -86.60861	3			-		1							1		1		Chara
Bass Lake	8/1/05	41.21638	-86.60719	5					1									0	ELGA7 LEMN	Elodea
Bass Lake			-86.60729	6												1		0	MYHE	Duckweeds Broadleaf watermilfoil
Bass Lake	8/1/05	41.21386	-86.608	7	4.0				3							1			MYSI	Northern watermilloil
Bass Lake			-86.60809	8														0	MYSP2	Eurasian watermilfoil
Bass Lake	8/1/05		-86.60798	9					1							1		1	MYVE	Whorled watermiffoil
Bass Lake Bass Lake	8/1/05	41.211	-86.60621 -86.60484	10	3.0				1							1		1	NAFL	Slender naiad
Bass Lake		41.21365	-86.60418	12					,							1		0	NAGU NAMA	Southern waternymph Spiny naiad
Bass Lake	8/1/05	41.21282	-86.60389	13	5.0											0			NAMI	Brittle waternymph
Bass Lake	8/1/05	41.21146	-86.60382	14	5.0	1	1		1							2			NELU	American lotus
Bass Lake	8/1/05	41.21029	-86.60372	15	5.0	1	1									1		0	NI?TE	Nitella
Bass Lake	8/1/05	41.20961	-86.60298	16	4.0	1	1									1				No aquatic vegetation
Bass Lake Bass Lake	8/1/05	41.21081	-86.60219 -86.60191	17	4.0	2			1							2			NULU	Yellow pond lily
Bass Lake	8/1/05	41.21173	-86.60046	19	6.0	1	1		1							2			POAM	White water lily Large-leaf pondweed
Bass Lake	8/1/05	41.21051	-86.5999	20	4.0	1			1							1			POCR3	Curly-leaf pondweed
Bass Lake	8/1/05	41.20923	-86.59968	21	2.0											0		0	POFO3	Leafy pondweed
Bass Lake			-86.59856	22	2.0											0			POGR8	Variable pondweed
Bass Lake	8/1/05	41.21067	-86.59885 -86.59891	23	4.0	1			1							1			POIL	Illinois pondweed
Bass Lake Bass Lake	8/1/05		-86.59776	24 25	7.0									1		2			PONO2 POPE6	American pondweed
Bass Lake	8/1/05	41.2106	-86.59609	26	3.0	1			1							1				Sago pondweed
Bass Lake	8/1/05	41.20983	-86.59462	27	4.0	3			3							2				White-stemmed pondweed Small pondweed
Bass Lake	8/1/05	41.21089	-86.59319	28	3.0	1								1		1			PORI2	Richardson's pondweed
Bass Lake	8/1/05	41.21215	-86.59251	29	4.0											0		0	POZO	Flat-stemmed pondweed
Bass Lake	8/1/05	41.21231	-86.591	30	3.0											0			UTMA	Common bladderwort
Bass Lake Bass Lake	8/1/05	41.21507	-86.58978 -86.58878	31	3.0											0			VAAM3	Wild celery, eel grass
Bass Lake		41.21593		33	5.0											0			WO?LF ZAPA	Watermeal Horned condweed
Bass Lake	8/1/05	41.21721	-86.58833	34	4.0											0				Horned pondweed Water stargrass
Bass Lake	8/1/05	41.21804	-86.58749	35	2.0											0		0		
Bass Lake	8/1/05	41.21942	-86.58754	36	3 2.0											0		0	Count	34
Bass Lake	8/1/05	41.21974	-86.58626 -86.58477	37	2.0													0		
Bass Lake Bass Lake	8/1/05	41.21988	-86.58477 -86.58312	38	7.0						-							0		
Bass Lake	8/1/05	41.2207	-86.58153	40	6.0				1							1		0		
Bass Lake	8/1/05	41.22145	-86.5796	41	3.0											0		0		
Boss Lake	8/1/05	41.22245	-86.57948	42	4.0											0)	0		
Bass Lake	8/1/05	41.22324	-86.57796	43	4.0											0		0		
Bass Lake	8/1/05	41.22469	-86.57758 -86.57788	44					-							0		0		
Bass Lake Bass Lake	8/1/05	41.22581	-86.57788 -86.57703	45												0		0		
Bass Lake			-86.57657	46					1							1		0	-	
Bass Lake	8/1/05	41.22899	-86.57689	48					-							0		0		
Bass Lake	8/1/05	41.22997	-86.57643	49												0		0		
Bass Lake	8/1/05	41.23085	-86.57613	50												0		0		
Bass Lake	8/1/05	41.23171	-86.57595 -86.57457	51						-						0		0		
Bass Lake Bass Lake	8/1/05	41.23223	-86.57338	52 53						-	-					0		0		
Bass Lake	8/1/05	41.23221	-86.57244	54			1									1		0		
Bass Lake	8/1/05	41.23355	-86.57219	55												0		0		
Bass Lake			-86.57215	56					3							1		1		
Bass Lake			-86.57122 -86.57047	57														0		
Bass Lake Bass Lake	8/1/05	41.2375	-86.57047 -86.5708	58			-		-							0		0		
Bass Lake	8/1/05	41.23967	-86.57216	60										_		0		0	-	
Bass Lake			-86.57328	61												0		0		
Bass Lake	8/1/05	41.24082	-86.57448	62												0		0		
Bass Lake			-86.57587	63	3.0											0		0		
Sass Lake	8/1/05	41.2412	-86.5766	64	2.0											0		0		
Bass Lake Bass Lake	8/1/05	41.24083	-86.57758 -86.57882	65	2.0					-								0		
Dass Lake			-86.57962	67	3.0											0		0	_	
Bass Lake			-86.58108	68	2.0											0		0		
Bass Lake	8/1/05	41.23919	-86.58204	69	2.0											0		0		
Bass Lake	8/1/05	41.2381	-86.58273	70	4.0											0		0		
Bass Lake	8/1/05	41.23728	-86.58291	71	4.0											0		0		
Bass Lake	8/1/05	41.23794 41.23777	-86.58403 -86.5849	72	3.0		_									0		0	_	
Bass Lake	8/1/05	41.23674	-86.58541	74	3.0											0		0		
Bass Lake	8/1/05	41.23628	-86.5848	75	5.0											0		0		
Bass Lake	8/1/05	41.23537	-86.58534	7€	5.0	1			1							1		1		
Bass Lake	8/1/05	41.23444	-86.58533	77	5.0	2	1		2							2		1		
Bass Lake	8/1/05	41.23369	-86.58566 -86.58612	78 79	5.0	1	1		1							2		1		
Bass Lake Bass Lake	8/1/05	41.23295	-86.58682	80	5.0	3	1		3							1 2		1		
Bass Lake	8/1/05	41.23144	-86.58696	81	5.0	1			3							1		0		
Bass Lake	8/1/05	41.23042	-86.58696	82	4.0	1			1							1		1		
Bass Lake	8/1/05	41.22923	-86.58717	83	5.0	1			1							1		1		
Gass Lake	8/1/05	41.228	-86.58788	84	9.0		-		-							0		0		
Bass Lake Bass Lake	8/1/05	41.22703 41.22624		85 86	5 4.0 5 5.0				-							0		0		
Bass Lake		41.22575	-86.59083	87	4.0											0		0		
Bass Lake	8/1/05	41.22516	-86.59081	88	7.0	1	1									1		0		
Bass Lake	8/1/05	41.22464	-86.59155	89	5.0	1			1							1		1		
Bass Lake	8/1/05	41.22396	-86.59209	90	3.0											0		0		
Bass Lake	8/1/05	41.22321	-86.59184 -86.5914	91	5.0		1									1		0		
Bass Lake	8/1/05	41.22143	-86.59131	93	3 7.0											0		0		
Bass Lake	8/1/05	41.22067	-86.59129	94	2.0											0		0		
Bass Lake	8/1/05	41.22017	-86.59111	95	2.0											0		0		
Bass Lake	8/1/05	41.21963	-86.5919	96	3 2.0											0		0		
Bass Lake		41.21886		97														0		
Bass Lake	8/1/05	41.21923	-86.59419 -86.59397	. 98	3.0											0		0	-	
Bass Lake	8/1/05	41.22065	-86.59397	100					1							- 0		1		
Bass Lake	8/1/05	41.22062	-86.59495	101	2.0				-			1				-		1		
Bass Lake	8/1/05	41.21988	-86.59533	102	3.0													0		
Bass Lake	8/1/05	41.21925	-86.59582	103														0		
Bass Lake	8/1/05	41.21852	-86.59586 -86.59672	104												0		0		
Bass Lake Bass Lake	8/1/05	41.21704	-86.59672 -86.59693	105			-		-		-	-	-	-				0		
Bass Lake	8/1/05	41.21599	-86.59747	107														0		
Bass Lake	8/1/05	41.21484	-86.59793	108	3.0	1	1									1		0		
Bass Lake	8/1/05	41.21388	-86.59806	109												0		0		
Bass Lake			-86.59883	110												0		0		
Bass Lake			-86.59834 -86.59799	111							-	-		-		0		0		
Bass Lake Bass Lake			-86.59799 -86.59734	112			-		-		-		-					0		
Bass Lake			-86.59643	114														0		
Bass Lake	8/1/05	41.22218	-86.59751	115	4.0	1								1		1		1		
Bass Lake			-86.59859	116					1							1		1		
Bass Lake			-86.59885	117					1							1		1		
Bass Lake	0/1/05	41.21916	-86.59942	118	3.0	,											1	0		



Lake	Date		Longitude	Site	Depth	RAKE	MYSP2	POCR3	CH?AR	LVWORT	NAFL	POPE6	PORI2	MYSI	NAGR	SpeNum	NatSpel	Vum	Species Cod	des .
loss Lake	8/1/05		-86.60002	119	3.0	1	1									1		0	BIBE	Bur marigold
Boss Lake	8/1/05		-86.60055	120	3.0											0		0	CEDE4	Coontail
Boss Lake	8/1/05	41.21559	-86.60097	121	4.0											0		0	CH?AR	Chara
Bass Lake	8/1/05	41.21448	-86.60148	122	6.0	1	1		1							2		1	ELCA7	Elodea
Bass Leke	8/1/05	41.21655	-86.60198	123	3.0	1			1							1		1	LEMN	Duckweeds
Bass Lake	8/1/05	41.21795	-86.60176	124	3.0											0		0	MYHE	Broadleaf watermilfoil
Bass Lake	8/1/05	41.21923	-86.60098	125	4.0	7.0										0		0	MYSI	Northern watermifoil
Bass Lake	8/1/05	41.22082	-86.60011	126	4.0	5	1	1	5							3		1	MYSP2	Eurasian watermilfoil
Bass Lake	8/1/05		-86.59922	127	4.0	2			2					1		2		2	MYVE	Whorled watermilfoil
Bass Lake	8/1/05		-86.6003	128	3.0	1		1	1			-			and a	2		1	NAFL	Slender naiad
Bass Lake	8/1/05	41,22259	-86.60155	129	3.0	1			1							1		1	NAGU	Southern waternymph
Bess Lake	8/1/05	41.22174	-86.60255	130	3.0	1			1							- 1		1	NAMA	Spiny naiad
Bass Lake	8/1/05	41.22054	-86.60351	131	4.0	5			5							- 1		1	NAMI	Brittle waternymph
Bass Lake	8/1/05	41.21938	-86.60365	132	4.0	1			1							1		1	NELU	American lotus
Bass Lake	8/1/05	41.21831	-86.6041	133	4.0											0		0	NI?TE	Nitella
Bass Lake	8/1/05			134	3.0	1			1							1		1	NOAQVG	No aquatic vegetation
Bass Lake	8/1/05	41.21907	-86.6046	135	4.0	5			5							1		1	NULU	Yellow pond lily
Bass Lake	8/1/05	41.22106	-86.60457	136	3.0	1			1							- 1		1	NYTU	White water lily
Bass Lake	8/1/05	41.22227	-86.60422	137	3.0	1			1							1		1	POAM	Large-leaf pondweed
Bass Lake	8/1/05	41.22342	-86.60369	138	3.0	1			1				10000			1		1	POCR3	Curly-leaf pondweed
Bass Lake	8/1/05		-86.60476	139	2.0					- 1		1				2		2	POFO3	Leafy pondweed
Bass Lake	8/1/05	41.22279	-86.60571	140	2.0	1			1	1						2		2	POGR8	Variable pondweed
Dass Lake	8/1/05	41.22182	-86.60682	141	3.0	2			2							1		1	POIL	Illinois pondweed
Bass Lake	8/1/05	41.22098	-86.60727	142	3.0	1			1				1			2		2	PONO2	American pondweed
Bass Lake	8/1/05	41.22002	-86.60712	143	4.0	1			1							1		1	POPE6	Sago pondweed
Bass Lake	8/1/05	41.21898	-86.60687	144	5.0	5			5							1		1	POPR5	White-stemmed pondweed
Bass Loke	8/1/05		-86.60721	145	5.0	5			5							- 1		1	POPU7	Small pondweed
Bass Lake	8/1/05	41.2171	-86.60817	146	3.0	1			1							1		1	PORI2	Richardson's pondweed
Bass Lake	8/1/05	41.21555	-86.60969	147	4.0	5			5							1		1	POZO	Flat-stemmed pondweed
Bess Lake	8/1/05	41.21466	-86.61044	148	3.0	2	1		2							2		1	UTMA	Common bladderwort
Bass Lake	8/1/05	41.21667	-86.60997	149	3.0	. 5			5							1		1	VAAM3	Wild celery, eel grass
Bass Lake	8/1/05	41.21809	-86.60898	150	4.0	5	1		5							2		1	WO?LF	Watermeal
Bess Lake	8/1/05	41.2195	-86.60784	151	5.0		4									1		0	ZAPA	Horned pondweed
Bess Lake	8/1/05	41.2205	-86.60774	152	3.0	1			1							1		1	ZODU	Water stargrass
Bass Lake	8/1/05	41.22167	-86.60804	153	3.0	1			1							1		1		
Bass Lake	8/1/05	41.22163	-86.60996	154	3.0	2			2	- 1		1	1			4		4	Count	34
Bass Lake	8/1/05	41.2205	-86.60978	155	2.0	2			2		2		1			3		3		
Bass Lake	8/1/05	41.21956	-86,6096	156	2.0	1			1							- 1		1		
Bass Lake	8/1/05	41.21868		157	2.0	1			1							1		1		
Bass Lake	8/1/05			158	2.0	2	1		2						- 1	3		2		
Bass Lake	8/1/05	41.21614	-86.61105	159	3.0	2			2				- 1			2		2		
Bass Lake	8/1/05		-86.61126	160	2.0	1			1							1		1		
Bass Lake	8/1/05	41.21359	-86.61087	161	2.0	- 1			1	1		-				2		2		



VEGEGETATION CONTROL PERMIT APPLICATION

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APPLICATION FOR AQUATIC VEGETATION CONTROL PERMIT

State Form 26727 (R / 11-03)
Approved State Board of Accounts 1987
Whole Lake X Multiple Treatment Areas
Check type of permit

FOR OFFICE USE ONLY
License No.
Date Issued
Lake County

Return to: Page 1 of 2

DEPARTMENT OF NATURAL RESOURCES

Division of Fish and Wildlife

Commercial License Clerk

402 West Washington Street, Room W273

Indianapolis, IN 46204

				ı,	Lanc	County					
INSTRUCTIONS: Please print or type information								FEE: \$5.00			
Applicant's Name				L	Lake Assoc. Name						
Bass Lake Conservancy District						Е	Bass Lake (Conservano			
Rural Route or Street 3620 South County Road 21								Phone Number 812-497-2410			
City and State								ZIP Code	012 407 2410		
			Knox, IN						46534		
Certified Applicator (if a	applicable)				Comp	oany or Inc. Name		Certification Number			
Rural Route or Street								Phone Number			
City and State								ZIP Code			
Lake (One application)	per lake)			In	Neare	est Town		County			
	Bass	Lake				Knox		Starke			
Does water flow into a	water supply							Yes	X No		
Please complete one	e section for	EACH	treatment area.	Attach lak	ke ma	ap showing treatm	ent area and	denote locat	ion of any water supply intake.		
Treatment Area # 1 LAT/LONG or UTM's Treatment areas to be determined following spring survey											
Total acres to be controlled 40-50 Proposed shoreline treatment length (i						Perpendicular distance from shoreline (ft)					
Maximum Depth of Treatment (ft) 6 Expected date(s) of treatment(s) Late May early June											
Treatment method:	X Chemic	al	Physical		Ві	iological Control	Mec	hanical			
Based on treatment method, describe chemical used, method of physical or mechanical control and disposal area, or the species and stocking											
rate for biological contr	ol. Renova	ate herbi	cide for selective	control of l	Euras	sian watermilfoil wh	ere it occurs a	at a rate of 1p	pm		
Plant survey method:	X Rake	X	Visual	Other (spec	cify)	Actual trea	atment area	a determine	ed after spring survey		
	Aquatic F	Plant N	ame			Check if Target Species		e Abundance Community			
	Eurasian	Water	milfoil			X		20			
	Cha	ra spp.						50			
	Sago p	ondwe	ed					2			
	Northern	waterr	nilfoil					2			
	Comm	on nai	ad					2			
	Curlyleaf	pondy	veed					2			
F	Richardsor	n's pon	dweed					2			
	White	water	lily					5			
	Spat	terdocl	<					3			



									1 ago 01	
Treatment Area #		LAT/LON	LAT/LONG or UTM's							
Total acres to be					T					
controlled Propose			ed shoreline	treatment len	gth (ft)	Perpendicular distance from shoreline (ft)			
Maximum Depth of Treatment (ft) Expected date(s) of treatment(s)										
Treatment method:	Chemica	ıl 🗌	Physical			Biological Control	М	echanica	al	
Based on treatment method rate for biological control.	l, describe	e chemi	ical used, me	ethod of phys	cal c	or mechanical control	and dispos	al area,	or the species and stocking	
Plant survey method:	Rake		Visual	Other (sp	ecif	v)			XXXXX	
			-		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Check if Target	1			
Aq	ame			Species		Relative Abundance % of Community				
				Орослоо			% of Community			
W. C.										

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INSTRUCTIONS: Whoel						s they are a professional on the "Certified Applican		a profess	ional company	
Applicant Signature						· · · · · · · · · · · · · · · · · · ·			Date	
Certified Applicant's Signatu	ıro.								Data	
Certified Applicant's Signati				ľ			Date			
				F	OR	OFFICE ONLY				
Approved Disapproved						Fisheries Staff Specialist				
						Environmental Staff Specialist				
Ap	proved		Disag	proved						
Mail check or money order in the amount of \$5.00 to: DEPARTMENT OF NATURAL RESOURCES DIVISION OF FISH AND WILDLIFE COMMERCIAL LICENSE CLERK 402 WEST WASHINGTON STREET ROOM W273 INDIANAPOLIS, IN 46204										

